

chord to tip chord) of 4 has a twist (washout) of only about 6° at the wing tip. Yet there is positive aileron action when sinking in a partly slatted condition, and vigorous response at 4 m.p.h. above stalling speed.

As speed range increases, the amount of twist must be reduced to avoid downloads on the wing tip when in a dive, and high induced drag at cruising speed. If the same degree of lateral stability near the stall is to be retained with less twist, the taper ratio must be reduced.

This tendency can be seen in sailplane design. The latest machines, which have a higher speed range, have less taper.

In practice, the wing section usually changes towards the wing tip. If so, the distribution of  $K_L$  over the span can be obtained in the usual way (by the Glauert method or others) as before, and the  $K_L$  max. for each section is required. The ratio  $K_L/K_L$  max. may then be plotted over the span from these quantities, and should decrease towards the wing tip as much as the designer considers necessary to give satisfactory stability and aileron control near the stall. This slightly modifies the simple result.

These considerations indicate that an aircraft of considerable speed range having good characteristics in roll and induced drag can be designed by using a plain wing having a moderate taper ratio and a moderate twist.

G. M. BUXTON.  
Lee-on-Solent.

#### NATIONAL AVIATION DISPLAYS, LTD.

[3113] A complete mis-statement of facts appears in your issue of January 9, page 46. In a lengthy reference to Sir Alan Cobham it is stated there that:—

"The story went around that Mr. C. W. A. Scott had purchased from Sir Alan National Aviation Displays, Ltd. That is not altogether correct, the facts being that Mr. Scott has bought some of the aircraft used in the two 'circuses' which Sir Alan has had touring the country. The rest of the equipment, barring a few trifling items, has been disposed of to various purchasers." Actually Sir Alan Cobham has disposed of National Aviation Displays, Ltd., as will be seen from the following extract from the Sale and Purchase Agreement:—

"The Purchasers (C. W. A. Scott, and others) will purchase and the Vendors (Sir Alan Cobham, and others) will sell to the Purchasers, or their nominees, the said business of the giving of Aerial Displays of whatsoever nature heretofore carried on by the Vendors as from the Eleventh day of December One Thousand Nine hundred and Thirty-five, comprising the following:—

"(a) The goodwill of the Vendors in connection with

#### AIRPORTS AND THEIR EQUIPMENT.

IN conjunction with the Annual Conference and Aerodrome Equipment Exhibition of the Aerodrome Owners' Association, which takes place in London on January 30 and 31, *Flight* will publish a Special Number devoted to the subject of Modern Airports and their Equipment.

Appearing on Thursday, January 30, this issue will contain a number of articles dealing with the layout and maintenance of airports and illustrating modern practice at home and abroad. The Airports Exhibition is not open to the general public, but a review of the exhibits of the sixty-odd firms taking part will be included in this Special AIRPORTS number.

January  
30

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the business of aerial displays heretofore carried on by the Vendors and the exclusive right to use the name 'National Aviation Displays.'

I should like to make it quite clear that I have no complaint at all against your publication, and that I do indeed value your goodwill most highly.

I hope you will agree, however, that it is essential in the interests of the new company that there should be no misunderstanding. C. W. A. SCOTT'S FLYING DISPLAY, LTD.,  
London, W.C.2. Charles W. A. Scott.

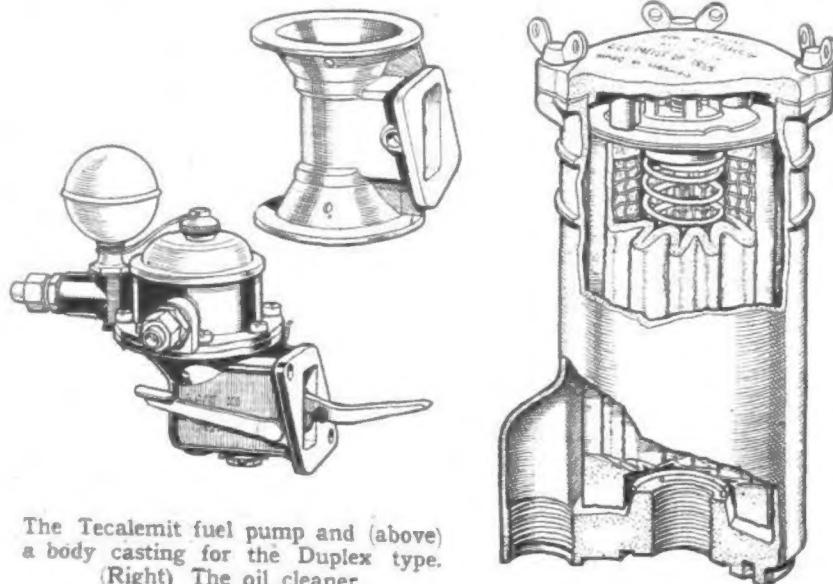
[In fairness to ourselves we should state that the paragraph published in *Flight* was based upon information given to us by Sir Alan Cobham. It is, perhaps, significant that the word "Limited" does not appear in Mr. Scott's extract from the agreement.—ED.]

#### FOR OIL and FUEL

THE accompanying illustrations show two of the latest models of aircraft engine components produced by Tecalemit.

First is an oil filter, the internal construction of which is clearly shown in the sketch. Designed for mounting on a bulkhead or on engine bearers, it is made mainly of magnesium alloy, and weighs only 3 lb. 14 oz., in spite of the fact that it has a filtering capacity of 400 gall./hr. Among the advantages claimed is an extremely low back-pressure figure.

The second component is an engine fuel pump, made in two models, type D./A for outputs up to 18 gall./hr. at a pressure of 1.8 lb./sq. in., and the type D./A Duplex, which, in effect, comprises two separate pumps operated by a single drive. These pumps are of very low weight; as the design of the actuating levers varies with individual layouts, the exact figure cannot be quoted, but the weight of the type D./A without lever and pipe



The Tecalemit fuel pump and (above) a body casting for the Duplex type. (Right) The oil cleaner.

unions is 1 lb. 1 oz. and of the type D/A. Duplex, 1 lb. 14 oz. It is stated that the output is steady at all speeds, without pulsation, and that the working pressure at carburettor level need never exceed 1.8 lb./sq. in. It is also claimed that the pumps are entirely free from the risk of vapour locks and valve warping in hot climates, due to the design of fuel passages and the use of stainless-steel-disc valves. Priming at low speeds is very rapid, although a hand primer lever is provided for initially filling the fuel lines. Moreover, the air dome above the pump forms a fuel trap to make up for float chamber evaporation when the engine is at rest. The gauze filter element is readily accessible.

These pumps have been so designed that they can be mounted in an inverted position; thus they are equally suitable when used with dual carburetters for inverted flying and aerobatics.

Tecalemit, Ltd., Great West Road, Brentford, Middlesex, are the makers.